

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 6202	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/EP2004/050577	International filing date (<i>day/month/year</i>) 21.04.2004	Priority date (<i>day/month/year</i>) 15.05.2003
International Patent Classification (IPC) or national classification and IPC		
Applicant CREAVIS GESELLSCHAFT FUR TECHNOLOGIE UND INNOVATION MBH		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>2</u> sheets, as follows: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <div style="margin-left: 20px;"> <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div> </div> <div style="margin-left: 20px;"> b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions). </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050577

Box No. I	Basis of the report
1.	<p>With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.</p> <p><input type="checkbox"/> This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:</p> <p><input type="checkbox"/> international search (Rule 12.3 and 23.1(b))</p> <p><input type="checkbox"/> publication of the international application (Rule 12.4)</p> <p><input type="checkbox"/> international preliminary examination (Rule 55.2 and/or 55.3)</p>
2.	<p>With regard to the elements of the international application, this report is based on <i>(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)</i>:</p> <p><input type="checkbox"/> the international application as originally filed/furnished</p> <p><input checked="" type="checkbox"/> the description:</p> <p>pages <u>1-11</u> _____ as originally filed/furnished</p> <p>pages* _____ received by this Authority on _____</p> <p>pages* _____ received by this Authority on _____</p> <p><input checked="" type="checkbox"/> the claims:</p> <p>nos. _____ as originally filed/furnished</p> <p>nos.* _____ as amended (together with any statement) under Article 19</p> <p>nos.* <u>1-5</u> _____ received by this Authority on <u>04.11.2004 with letter</u></p> <p>nos.* _____ received by this Authority on <u>of 02.11.2004</u></p> <p><input checked="" type="checkbox"/> the drawings:</p> <p>sheets <u>1-3</u> _____ as originally filed/furnished</p> <p>sheets* _____ received by this Authority on _____</p> <p>sheets* _____ received by this Authority on _____</p> <p><input type="checkbox"/> a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.</p>
3.	<p><input type="checkbox"/> The amendments have resulted in the cancellation of:</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (<i>specify</i>): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (<i>specify</i>): _____</p>
4.	<p><input type="checkbox"/> This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).</p> <p><input type="checkbox"/> the description, pages _____</p> <p><input type="checkbox"/> the claims, nos. _____</p> <p><input type="checkbox"/> the drawings, sheets/figs _____</p> <p><input type="checkbox"/> the sequence listing (<i>specify</i>): _____</p> <p><input type="checkbox"/> any table(s) related to sequence listing (<i>specify</i>): _____</p>

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050577

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-5</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims _____	YES
	Claims <u>1-5</u>	NO
Industrial applicability (IA)	Claims <u>1-5</u>	YES
	Claims _____	NO

2. Citations and explanations (Rule 70.7)

This report makes reference to the following documents:

D1: JP-A-6200074 (Derwent abstract)

D2: EP-A-0846715

D2: DE-A-3913485

1. **Novelty**

D1 discloses the use of microparticles treated with fluorosilanes to impart water repellency in order to produce surfaces having raised areas formed by the microparticles.

Although the particles so treated are used as fillers, D1 explicitly indicates that the fillers are also present on the surface of the substrate, in consequence of which the water-repellent properties of the microparticles are transferred to the surface of the substrate. At the same time, raised areas are also evidently formed. (See also the title of the Derwent abstract, which refers to a surface-modified **polymeric** composition prepared

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using a surface-modified filler).

The exact surface structure is not disclosed, but it is assumed that a random distribution of SiO₂ microparticles (with a particle size of 1 µm) also yields a surface structure consistent with the claimed parameters.

However, the use of fluoroalkylalkoxysilanes to impart water repellency is not disclosed

Therefore, the present claims 1-5 are novel over D1.

D2 discloses the preparation of fluoroalkylalkoxysilanes according to the invention and their use in coating particles, which possess excellent dirt-repelling (that is, self-cleaning) properties.

However, production of surfaces having the claimed structures is not claimed.

Therefore, the present claims 1-5 are novel over D2.

D3 likewise discloses the use of particles treated with fluorosilanes to impart water repellency in order to produce coatings. Neither the use of fluoroalkylalkoxysilanes to impart water repellency nor the exact surface structure are disclosed.

Box No. V

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Therefore, the present claims 1-5 are novel over D3.

2. Inventive step

The feature distinguishing the present application from the closest prior art (D1) is the use of specific water repellents (fluoroalkylalkoxysilanes).

However, in the absence of corresponding comparative tests, no technical effect is shown to be produced that is due solely to this distinguishing feature. Consequently, the objective technical problem addressed by the present application consists in providing further water-repellent microparticles for producing structured surfaces.

However, the production of particles modified by fluoroalkylalkoxysilanes to give improved self-cleaning properties is known from D2 and the use of such particles to modify surfaces as per D1 would be correspondingly obvious to a person skilled in the art.

Therefore, claims 1-5 of the present application do not involve an inventive step.